

THE CLAIMS

What is claimed is:

1. A golf ball having three or more concentrically disposed layers,
which comprises:
5 a core of at least one layer comprising at least one resilient elastomeric
material;
a hoop-stress layer comprising at least one hoop-stress material having a
tensile elastic modulus of at least about 10,000 kpsi wound or wrapped about the core; and
10 an outermost thermoset material of at least one layer disposed about the
hoop-stress layer and having a thickness of greater than about 0.065 inches and a dimpled
outer surface.
- 2 The golf ball of claim 1, wherein the core comprises polybutadiene.
- 15 3 The golf ball of claim 1, wherein the at least one hoop-stress material
comprises a wire, thread, or filament.
- 4 The golf ball of claim 1, wherein the at least one hoop-stress material
is comprises a continuous strand of diameter ranging from about 0.004 to 0.04 inches.
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- 5 The golf ball of claim 1, wherein the at least one hoop-stress material
comprises glass, aromatic polyamids, carbon, metals, shape memory alloys, natural fibers,
or a combination thereof.
- 25 6 The golf ball of claim 5, wherein the at least one hoop-stress material
is wound or wrapped in a criss-cross, basket weave, or open pattern about the core.
- 7 The golf ball of claim 6, wherein the at least one hoop-stress material
comprises a plurality of braided elements.
- 30 8 The golf ball of claim 1, wherein the at least one hoop-stress material
has a tensile elastic modulus of at least about 20,000 kpsi.
- 9 The golf ball of claim 1, wherein the at least one layer of an
35 outermost thermoset material is formed from a material comprising at least one of
polybutadiene, natural rubber, styrene butadiene rubber, isoprene, or mixtures thereof.

10 The golf ball of claim 1, wherein the at least one layer of an
outermost thermoset material comprises urethane.

5 11 The golf ball of claim 1, wherein the at least one layer of an
outermost thermoset material has a thickness of greater than about 0.065 inches.

12 The golf ball of claim 11, wherein the at least one layer of an
outermost thermoset material has a thickness of greater than about 0.08 inches.

10 13 The golf ball of claim 12, wherein the at least one layer of an
outermost thermoset material has a thickness of greater than about 0.1 inches.

15 14 The golf ball of claim 1, wherein the at least one layer of an
outermost thermoset material has a hardness of about 10 to 90 Shore D.

15 15 The golf ball of claim 1, wherein the at least one layer of an
outermost thermoset material comprises an abrasion resistant material.

20 16 The golf ball of claim 1, wherein the golf ball further comprises a
second resilient elastomeric material of at least one layer disposed between the hoop-stress
layer and the outermost thermoset material.

17 The golf ball of claim 1, wherein the first resilient elastomeric
material and the outermost thermoset material each comprise polybutadiene.

25 18 The golf ball of claim 17 wherein the polybutadiene is the same.

30 19 A golf ball of four or more concentrically disposed layers, which
comprises:

a core of at least one layer comprising a resilient elastomeric material;

30 a hoop-stress layer comprising at least one wound material, having a tensile
elastic modulus of at least about 10,000 kpsi, disposed about the core, wherein the at least
one wound material forming the hoop-stress layer has a first cross-sectional area and is
coated with a binding material layer to create a second cross-sectional area greater than the
first; and

35 an outermost thermoset material of at least one layer, having a dimpled outer
surface, disposed about the binding material layer.

20 The golf ball of claim 19, wherein the at least one wound material has a tensile elastic modulus of at least about 20,000 kpsi.

5 21 The golf ball of claim 19, wherein the at least one wound material is a continuous strand of diameter ranging from about 0.004 to about 0.04 inches.

22 The golf ball of claim 19, wherein the second cross-sectional area is at least about 5 percent larger than the first cross-sectional area.
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23 The golf ball of claim 19, wherein the binding material comprises at least one of thermoplastic polyvinyl butyral, thermoplastic epoxy, thermoplastic polyester phenolic, thermoplastic polyamide, thermosetting adhesive epoxy, thermoplastic polyamide-imide, or combinations thereof.
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24 The golf ball of claim 19, wherein the at least one layer of an outermost thermoset material comprises at least one of polybutadiene, natural rubber, and styrene butadiene rubber, isoprene, or mixtures thereof.

25 The golf ball of claim 19, wherein the at least one layer of an outermost thermoset material has a thickness of greater than about 0.08 inches.
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